

REMARKS

Claims 1-16 and 52. are pending in this application. Claim 52 is new. Support for new Claim 52 can be found throughout the specification and in claims 1, 2, and 13 as originally filed. No new matter has been added.

Applicants respectfully reserve the right to pursue any non-elected, canceled or otherwise unclaimed subject matter in one or more continuation, continuation-in-part, or divisional applications.

Reconsideration and withdrawal of the objections to and the rejections of this application in view of the amendments and remarks herewith, is respectfully requested, as the application is in condition for allowance.

Rejections under 35 U.S.C. § 103(a)

Claims 1-16 are rejected under 35 U.S.C. 103 (a), as unpatentable over the combination of PCT International Patent Publication No. WO 00/70334A1 to Lee (“Lee”) in view of United States Published Patent Application No. US 2005/0153346 to Schneider (“Schneider”).

To properly determine a *prima facie* case of obviousness, the Examiner “must step backward in time and into the shoes worn by the hypothetical ‘person of ordinary skill in the art’ when the invention was unknown and just before it was made.” M.P.E.P § 2142. This is important as “impermissible hindsight must be avoided and the legal conclusion must be gleaned from the prior art.” *Id.* Four factual inquiries must be made: first, a determination of the scope and contents of the prior art; second, a determination of the differences between the prior art and the claims in issue; third, a determination of level of ordinary skill in the pertinent art; and fourth, an evaluation of evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). Three criteria may be helpful in determining whether claimed subject matter is obvious under 103(a): first, if there is some suggestion or motivation to modify or combine the cited references; second, if there is a reasonable expectation of success; and third, if the prior art references teach or suggest all the claim limitations. *KSR Int'l Co. v. Teleflex, Inc.* No 04-1350 (U.S. Apr. 30, 2007). With regard to the first criterion, the mere fact

that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.3d 690 (Fed. Cir. 1990). “Knowledge in the prior art of every element of a patent claim ... is not of itself sufficient to render claim obvious.” *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *Teleflex*, [*Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1333-34 (Fed. Cir. 2002)]. The issue is whether there is an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *KSR Int'l Co. v. Teleflex, Inc.*

Claim 1 recites a method for analysis of a small molecules comprising contacting a sample; said sample containing at least one small molecule with a surfactant.. As discussed in prior responses, Lee is related to the analysis of large molecules, specifically proteins or peptides. The Examiner alleges that Lee, in teaching the potential use of MALDI, shows that is desirable to use the elected surfactant to improve the analysis of “digests” and equates the presumed “digests” of Lee with small molecules. As previously argued, the disclosure of MALDI in Lee does not amount to the disclosure of small molecules in Lee. The Examiner has not shown any suggestion, in Lee or in the art, that would indicate that the energy adsorbed by the sample in a MALDI analysis of a peptide or protein would necessarily result in the creation of a small molecule digest rather than merely ionize the peptide or protein itself as would normally be expected from MALDI analysis.

It is respectfully submitted that one of ordinary skill in the art would have lacked the necessary expectation of success in utilizing a surfactant as described by Lee for the analysis of one or more small molecules contained within a sample. At best, one of ordinary skill in the art may have expected the surfactant to assist in the analysis of proteins or peptides found in the sample, as surfactants have historically been used only for the analysis of similar large molecules due to their binding characteristics (See background).

Similarly, in light of this historical binding character, even if one were to assume, as the examiner suggests, that MALDI analysis results in the digestion of a peptide or protein into a small molecules, one of ordinary skill in the art would have had no motivation to utilize the claimed method as, prior to the present invention, there would have been no reason to use a surfactant to analyze the small molecules the MALDI laser itself would have created.

Schneider does nothing to rectify the deficiencies of Lee. Schneider merely describes the use of MALDI for the analysis of different sized molecules. Indeed, a careful reading of Schneider would lead one of ordinary skill in the art away from the Examiner's assertion that MALDI analysis would digest large molecules into small molecules as Schneider states that MALDI is one of "the best able to *ionize large*, low volatility *molecular species*." (See, Paragraph 125, emphasis added). As such, even if one of ordinary skill were to look to Schneider for the teaching that MALDI can be used for small molecular species, the same artisan would have been taught that large molecules are ionized by MALDI and not digested into small molecular species.

Thus, one of ordinary skill would have had no motivation to combine the MALDI teachings of Schneider with large molecule analysis of Lee , let alone modify those teachings to arrive at the small molecule analysis method of the instant invention

Accordingly, Applicants respectfully request reconsideration and withdrawal of all rejections under 35 U.S.C. § 103 of claims 1-16.

CONCLUSION

In view of the remarks made herein, Applicant submits that the application is in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are respectfully requested. If a telephone conference with Applicant's representative would be helpful in expediting prosecution of the application, Applicant invites the Examiner to contact the undersigned at the telephone number indicated below.

Applicant believes that no additional fees, other than the fee for the one-month extension of time, are required in connection with this paper. Nevertheless, Applicant authorizes the Director to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to Deposit Account No. 04-1105, under Order No. 60008US(49991).

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Respectfully Submitted,

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